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ORIGINAL ARTICLE

A Triple Jeopardy: Inadequate Knowledge about COVID-19 among Older Persons with Psychiatric Diagnosis attending a Geriatric Centre in Southwest Nigeria

Triple Péril: Connaissance Insuffisante sur le COVID-19 chez les Personnes Agées Ayant un Diagnostic Psychiatrique Fréquentant un Centre Gériatrique dans le Sud-Ouest du Nigeria

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ABSTRACT

BACKGROUND: Older persons with mental illnesses have been affected by COVID-19 because of reduced access to routine health care, the adverse social impacts of preventive strategies and inadequate knowledge of the COVID-19 pandemic. Adequate knowledge is crucial to ensuring adherence to the right preventive practices.

OBJECTIVES: This study evaluates the knowledge gaps about COVID-19 and preventive practices among older persons with psychiatric diagnoses (PD) in comparison with older persons with non-psychiatric diagnosis (nPD).

METHODS: A hospital-based comparative study was conducted among older persons attending the Psychogeriatric and Healthy Ageing clinics of the Geriatric Centre, University College Hospital, Ibadan, Nigeria. Data were gathered with a semi-structured interviewer-administered questionnaire, and SPSS version 23 was used to analyse the data. Level of significance was set at 5%.

RESULTS: 390 respondents aged 60 and above were sampled in the two groups: 195 with PD and 195 with nPD. Their mean age was PD:72.2 (\pm 7.4) years and nPD:71.0 (\pm 8.0) years. Majority were aware of the ongoing pandemic (PD:95.9%; nPD:96.4%). The use of facemask (PD:89.7%; nPD:86.7%) was the commonest preventive practice. Male gender (OR: 2.09, CI ;1.14–3.86, $p = 0.018$) and education (OR: 5.10, CI; 1.15–22.67, $p=0.032$) were predictors of knowledge among PD and nPD respectively.

CONCLUSION: Older persons with psychiatric diagnoses have more gaps in their knowledge of COVID-19. Inadequate knowledge about COVID-19 could further put them in jeopardy of contracting the virus with its associated morbidity and mortality, in addition to the risk that old age and mental illness contribute. Health education programs about COVID-19 targeting the older population with mental illnesses would be beneficial. **WAJM 2022; 39(12): 1221–1228.**

Keywords: COVID-19, Pandemic, Mental disorder, Geriatric Psychiatry.

RÉSUMÉ

CONTEXTE: Les personnes âgées atteintes de maladies mentales ont été différemment touchées par la COVID-19 en raison d'un accès réduit aux soins de santé de routine, les impacts sociaux négatifs des stratégies de prévention et la connaissance insuffisante de la pandémie de COVID-19. Des connaissances adéquates sont essentielles pour garantir le respect des bonnes pratiques de prévention, en particulier chez les personnes âgées.

OBJECTIFS: Cette étude évalue les lacunes dans les connaissances sur le COVID19 et les pratiques préventives chez les personnes âgées ayant des diagnostics psychiatriques par rapport à ceux avec un diagnostic non psychiatrique.

METHODES: Une étude comparative en milieu hospitalier a été menée auprès de personnes âgées fréquentant les cliniques de psychogériatrie et de vieillissement en santé du Centre gériatrique, Hôpital du Collège Universitaire, Ibadan, Nigéria. Les données ont été recueillies à l'aide d'un questionnaire semi-structuré administré par un intervieweur, et SPSS version 23 a été utilisé pour analyser les données. Le seuil de signification a été fixé à 5%

RESULTATS: 390 répondants âgés de 60 ans et plus ont été échantillonnés dans les deux groupes: 195 avec undiagnostic psychiatrique (PD) et 195 avec undiagnostic non psychiatrique (nPD). Leur âge moyen était PD : 72.2 (\pm 7.4) ans et nPD: 71.0 (\pm 8.0) ans. La majorité était au courant de la pandémie en cours (PD:95.9 %; nPD: 96.4 %). L'utilisation du masque facial (PD:89.7 %; nPD:86.7 %) était la pratique préventive la plus courante. Le sexe masculin (OR:2.09, IC;1.14-3.86, $p=0.018$) et l'éducation (OR :5.10, IC ;1.15-22.67, $p=0.032$) étaient des prédicteurs des connaissances chez les PD et les nPD respectivement.

CONCLUSION: Les personnes âgées avec des diagnostics psychiatriques ont plus de lacunes dans leurs connaissances sur le COVID-19. Une connaissance insuffisante du COVID-19 pourrait les mettre davantage en danger de contracter le virus et c'est la morbidité et la mortalité associées, en plus du risque que la vieillesse et la maladie mentale contribuent. Des programmes d'éducation sanitaire sur le COVID-19 ciblant la population âgée souffrant de maladies mentales seraient bénéfiques. **WAJM 2022; 39(12): 1221–1228.**

Mots clés: COVID-19, Pandemie, Les troubles mentaux, Psychiatrique gériatrique.

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Abbreviations: COVID-19, Coronavirus Disease 2019; LMIC, Low and Middle-Income Countries; nPD, Non-Psychiatric Diagnosis; PD, Psychiatric Diagnosis; WHO, World Health Organization.

INTRODUCTION

The emergence of the highly contagious coronavirus in different parts of the world created a major public health problem globally.¹⁻⁴ The older populace is considered to be a vulnerable group to COVID-19 especially those with common comorbid conditions such as chronic lung diseases, cancer, diabetes, hypertension^{5,6} and mental issues like dementia, anxiety and depression⁷. These comorbidities weaken the immune system, thereby increasing their susceptibility to infectious diseases including coronavirus.⁸ Studies have shown that older adults with comorbidities are more susceptible to severe illness and mortality from COVID-19 infection than the general population.^{6,9} In addition, having a pre-existing mental illness further increases the risk of being infected by the virus.¹⁰ Due to the decline in specific cognitive function, older adults with mental illness may have lower sensitivity to the threats of the virus, consequently resulting into non-adherence to the precautionary steps recommended by relevant government agencies. In addition, mental health conditions have been associated with poorer physical health outcomes and lower life expectancy compared to the general populace.¹¹ This also could account for the increased vulnerability to the COVID-19 infection. Other problems include increased barriers in accessing routine mental health care during the pandemic¹¹ and increased risk of psychological sequel of the COVID-19 pandemic.¹²

In order to curb the negative impacts of the virus, the World Health Organization (WHO) communities and several other sources provided relevant information to educate the general public about the symptoms, transmission, and preventive measures to curtail the spread of the virus.¹⁴⁻¹⁶ The Nigerian government also employed several physical measures to curtail the spread of the virus and protect the older persons. For instance, it was recommended that older adults stay in isolation, visits to hospital wards and public places were also suspended. Some levels of cognitive appraisal are needed to successfully process this information. In cases where

cognitive function is affected, there could be limitations in comprehending information about the threats of the virus and precautionary steps. There are evidences that factors such as being an older adult^{17,18} and having a mental health diagnosis affect knowledge.^{7,9,19} For example, Juan *et al* posited that aging is significantly associated with cognitive decline which subsequently affects the retaining of information.¹⁹ Thus, these could negatively affect adherence to the preventive measures.

The public health model identifies the use of non-pharmaceutical interventions as effective in reducing the risk of the infection especially in Low and Middle-Income Countries where the vaccine roll out is currently about 0.4%.²⁰ This clearly indicates that adherence to non-pharmaceutical interventions is still highly necessary in these settings. However, Nigerians have become apathetic about COVID-19 and have cultured an indifferent attitude towards the virus as most people are somewhat passive in complying with the precautions²¹. Knowledge could be the fundamental driver needed for developing positive attitudes and practices against the infection.^{22,23} Moreover, it has been found to be an important construct instrumental in developing interventions geared at reducing the public health threat against the older populace.²⁴

The knowledge, attitude, and practice (KAP) model can be used as a theoretical framework for the development of our hypothesized relationships. The KAP model argues that knowledge has a positive influence on an individual's attitude and attitude in turn influences practices or behaviors.²⁵ Since, the KAP model is a rational theoretical model in health education, it is therefore based on the notion that improving personal knowledge will have an influence on the behavioural change of an individual.²⁶ This suggests that when personal knowledge of a particular health condition is improved, there is a resultant improvement in health practices regarding such a health condition. This implies a need for adequate information about prevention of infectious diseases like COVID-19 to ensure the adoption of correct preventive practice.

Regarding older adults with and without a psychiatric diagnosis, we hypothesized that having adequate and correct knowledge of the causes, symptoms and preventive strategies of COVID-19 will have an impact on the preventive practices of these older adults. Previous studies have established that having a mental illness may not necessarily inhibit the ability of older adults in making decisions.^{27,28} We found it imperative to assess the knowledge of these older adults, examine whether they have difficulty in cognitively appraising the pandemic and complying with the Non-Pharmaceutical Interventions (NPIs). To achieve this, we set out to answer the questions: Is there a knowledge gap about COVID 19 among older persons? What is the difference in the knowledge of COVID-19 among older adults with and without psychiatric diagnosis? What are the predictors of knowledge among older adults and those with psychiatric diagnosis?

Findings from this study could help identify the burden of the knowledge gap which could be instrumental to the development of needs assessment for determining policies, strategies and programmes targeted at addressing the identified gaps in knowledge.

SUBJECTS, MATERIALS AND METHODS

Participants above 60 years who have been attending either the psychogeriatric or healthy aging clinic since January 2020 (before the first case of COVID-19 was identified in Nigeria).²⁹ The study was conducted over a period of 2 months (18/04/2021–17/06/2021). The participants were divided into two groups; study group and comparison group. The study group included older adults with psychiatric diagnosis (PD) from the outpatient psychogeriatric clinic while the comparison group comprised of older adults with non-psychiatric diagnosis (nPD) from the Healthy aging clinic of the Geriatric centre. Those included in the group with psychiatric diagnosis were patients who consented, and had a psychiatric diagnosis based on either International Classification of Diseases 10 (ICD-10) or Diagnostic Statistical Manual of Mental Disorders IV (DSM 4) criteria documented in their

case records while those in the non-psychiatric diagnosis group were those who consented and did not have any psychiatric diagnosis or mental health-related problem based on the ICD-10/DSM-4 criteria documented in their case records. Patients who could not give consent and did not have a primary caregiver to give consent on their behalf were excluded from the study.

Sample size for comparison of two independent groups was used to obtain a minimum sample size of 195 participants per group.³⁰ Using the local registry of patients available from the clinics, consecutive patients were recruited until the desired sample size of 195 older patients with psychiatric diagnosis (in remission with capacity to consent and participate in the study) and 195 older patients with the non-psychiatric diagnosis were reached.

Participants were recruited on the telephone until the desired sample size was reached and individual interviews were conducted for patients on the phone. This approach was used to limit the risk of contracting COVID through physical interaction. Participants' mobile telephone contact was derived from existing records archived at the psychogeriatric and the healthy aging clinic. Informed consent was obtained from all participants, after the data collection procedure were explained to them in either English or an alternate language. A semi-structured purpose-designed questionnaire was used to collect data on participants' socio-demographic characteristics and allow for exploration of participants' knowledge of the cause, mode of transmission and symptoms of COVID-19, as well as preventive practices. Participants' clinical diagnoses were obtained from their medical case files.

Knowledge of COVID-19 was assessed by asking the participants open-ended questions on the cause, mode of transmission, and symptoms of COVID-19 infection. They were asked to list the preventive measures they carried out to protect themselves from contracting the virus. The participants were also asked about their attitude (feelings) towards the ongoing pandemic and their responses were classified as happy, unhappy, indifferent, and afraid.

The participants' socio-demographic characteristics and their knowledge on COVID-19, was summarized using descriptive statistics like mean, standard deviation and percentages.

World Health Organisation (WHO) document on the cause, mode of transmission, symptoms of COVID-19 infection, served as a guide to determine if the responses given by the participants were correct or incorrect.¹⁵ Participants who gave correct responses according to the WHO guideline were classified as "aware" while those who did not give any response or gave incorrect responses to the questions on the cause, mode of transmission and symptoms of COVID-19 were classified as "unaware".

To assess the differences/association, our main analysis compared the socio-demographic characteristics of the 195 participants with psychiatric diagnoses (study group) with the 195 without psychiatric diagnoses (comparison group). Chi-square statistics was used to determine if there was any difference/association between the participants' socio-demographic variables and knowledge of COVID-19 (aware and unaware). Further analysis using logistic regression was conducted to determine factors that predicted knowledge of COVID-19. Analyses were at individual level with the statistically significant value set at $p < 0.05$. Data entry and statistical analysis were performed using SPSS 23.

RESULTS

Description of the Cohort

Three hundred and ninety patients participated and were categorized into the PD (N=195) and nPD (N=195) groups, respectively. The mean (\pm SD) age of the participants was PD: 72.2 (\pm 7.4) years and nPD: 71.0 (\pm 8.0) years. Majority were female; PD: 64.6%, nPD: 72.3% and were formally educated; PD: 84.6%, nPD: 99.0%. Both groups were similar and comparable in terms of age and gender distribution; however, there was a significant difference in their educational status ($p=0.000$), with majority of those without formal education being participants with a psychiatric diagnosis (Table 1).

Knowledge of the cause of COVID-19

Of all the participants, very few knew 'virus' as the cause of COVID-19 (PD: 31.3%; nPD: 32.8%). Among the socio-demographic factors, education was significantly associated with knowledge of the cause of COVID-19 among the nPD cohort, $p=0.000$. However, there was no significant difference in the knowledge of the cause of COVID-19 among both groups, $p=0.745$ (Table 2).

Awareness of the ongoing Pandemic in the Country

A high percentage of the participants were aware and agreed that the COVID-19 pandemic is ongoing in Nigeria; PD: 95.9%, nPD: 96.4% (Table 2).

Table 1: Participants' Socio-Demographic Characteristics, Knowledge and Attitude towards COVID-19 Pandemic

Variable	Total N=390 (%)	PD n (%)	NPD n (%)	χ^2	P-value
Age				3.786	0.151
60 – 69	169 (43.3)	75 (38.5)	94 (48.2)		
70 – 79	161 (41.3)	87 (44.6)	74 (37.9)		
≥ 80	60 (15.4)	33 (16.9)	27 (13.9)		
Mean \pm SD		72.2 \pm 7.4	71.0 \pm 8.0		
Gender				2.672	0.102
Male	123 (31.5)	69 (35.4)	54 (27.7)		
Female	267 (68.5)	126 (64.6)	141 (72.3)		
Educational Status				49.003	0.000
No formal education	32 (8.2)	30 (15.4)	2 (1.0)		
Primary education	53 (13.6)	39 (20.0)	14 (7.2)		
SSCE	107 (27.4)	52 (26.7)	55 (28.2)		
Tertiary	198 (50.8)	74 (37.9)	124 (63.6)		

Knowledge of the Mode of Transmission

Although less than half of the participants from both groups were aware of the mode of transmission of COVID-19 infection, there is a significant difference in the assessment of knowledge of the mode of transmission in both groups ($p=0.000$), with a higher percentage of participants in the nPD cohort (43.6%) being aware of the mode of transmission of COVID-19 compared with the PD cohort (23.1%). (Table 3). Among the socio-demographic factors, education was significantly associated with knowledge of the cause and mode of transmission of COVID-19 among the nPD cohort, $p=0.000$ (Table 3).

Knowledge of the symptoms of COVID-19

Compared to the PD cohort, a higher percentage of the nPD cohort were more aware of at least one correct symptom of COVID-19 (Table 3). Socio-demographic factors significantly associated with knowledge of the symptoms of COVID-19 are gender in the PD cohort and education in the nPD cohort (Table 3). Cough (59%) was the most mentioned correct symptom among the list of symptoms from the participants. (Table 4).

Preventive measures carried out by the Participants

The preventive measures practiced by the participants in order to protect themselves from contracting COVID-19 are shown in Figure 2. The most frequently employed measure by both groups was the use of facemask; PD; 89.7%; NPD; 86.7%. However, other measures without scientific basis, and which were not listed by the World Health Organization, such as the use of hand gloves (PD: 5.6%), drinking of herbal concoctions (PD: 4.7%, NPD: 4.6%) were mentioned.

Predictors of Participants' Knowledge of COVID-19

In the logistic regression models after adjusting for the effect of gender and educational status on patients' knowledge of COVID-19, among those with a psychiatric diagnosis, male gender was predictive of the knowledge of symptomatology (OR: 2.09, CI: 1.14–3.86,

Table 2: Participants' Knowledge and Attitude towards COVID-19

	Total N= 390 (%)	PD N=195 (%)	NPD N= 195 (%)	χ^2	P-value
Knowledge of cause of COVID-19				0.106	0.745
Aware	125 (32.1)	61(31.3)	64(32.8)		
Not aware	265 (67.9)	134(68.7)	131(67.2)		
Knowledge of the mode of transmission of COVID-19				18.462	0.000
Aware	130 (33.3)	45(23.1)	85(43.6)		
Not aware	260 (66.7)	150(76.9)	110(56.4)		
Knowledge of the symptoms of COVID-19				49.566	0.000
Aware	247 (63.3)	90(46.2)	157(80.5)		
Not aware	143 (36.7)	105(53.8)	38(19.5)		
Attitude towards COVID-19				99.827	0.000
Afraid	116 (29.7)	46(23.6)	70(35.9)		
Happy	5 (1.3)	5(2.6)	0(0.0)		
Unhappy	209 (53.6)	144 (73.8)	65(33.3)		
Indifferent	60 (15.4)	0(0.0)	60(30.8)		

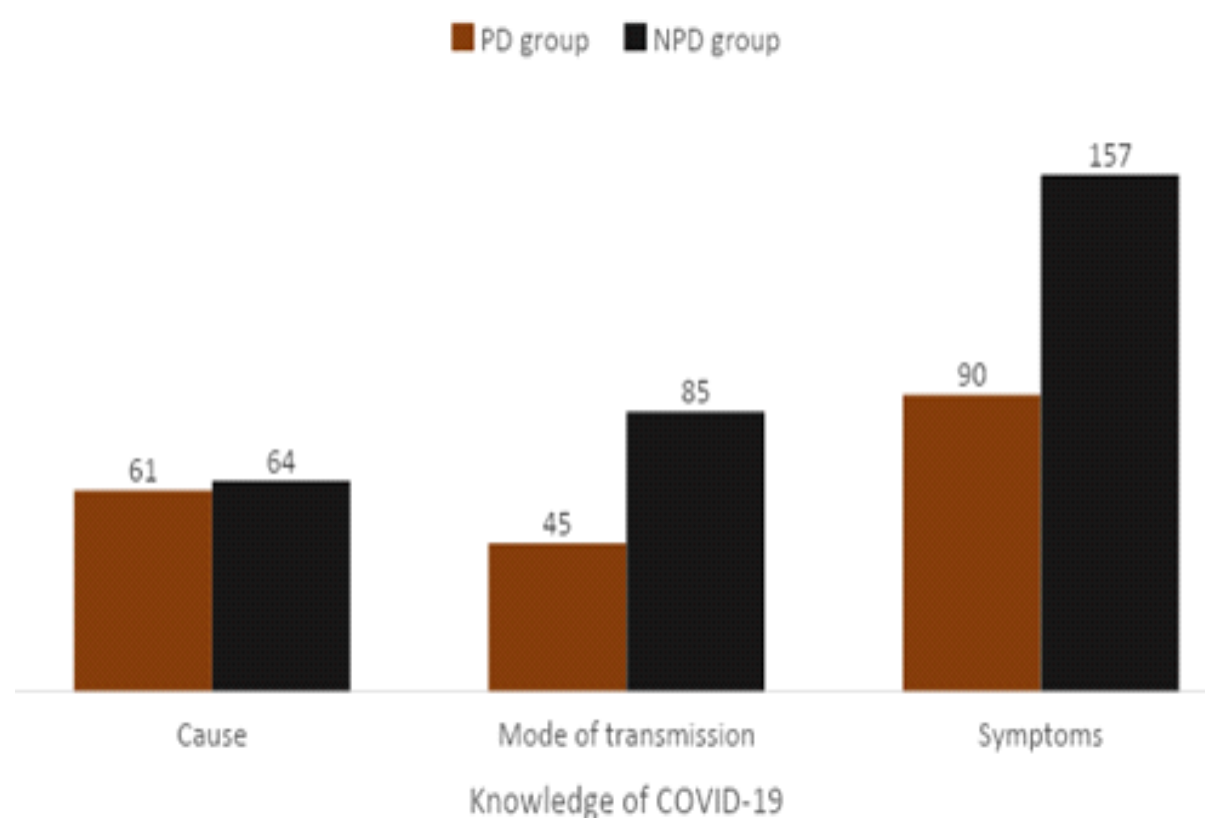


Fig. 1: Frequency Distribution of Participants Aware of the Cause, Mode of Transmission and Symptoms of COVID 19.

$p=0.018$) while secondary education was predictive of symptomatology (OR: 5.10, CI: 1.15 – 22.67, $p=0.032$) among those with non-psychiatric diagnosis (Table 5).

DISCUSSION

This study examined the knowledge gap about COVID-19 among older adults with and without psychiatric diagnosis

attending a geriatric centre in the southwestern region of Nigeria. Similar to findings in other studies,^{31,32} we observed some gaps in the knowledge of the cause, symptoms and modes of transmission of COVID-19 among these older adults despite high level of awareness of COVID-19 pandemic. Notably, there is a significant difference in knowledge

Table 3: Participants' Characteristics and their Knowledge about COVID-19, N=390

Socio-demographic Characteristics	PD				NPD			
	Aware n(%)	NotAware n (%)	χ^2	P-value	Aware n (%)	NotAware n (%)	χ^2	P-value
Knowledge about the cause of COVID-19								
Age								
60 – 69	27 (36.0)	48(64.0)	1.616	0.446	27(28.7)	67(71.3)	1.564	0.458
70 – 79	26 (29.9)	61 (70.1)			28(37.8)	46(62.2)		
≥80	8 (24.2)	25(75.8)			9(33.3)	18(66.7)		
Mean (±S.D)	72.2(7.4)		71.0(8.0)					
Gender								
Male	25(36.2)	44(63.8)	1.217	0.270	21(38.9)	33(61.1)	1.247	0.264
Female	36(28.6)	90(71.4)			43(30.5)	98(69.5)		
Education								
No formal education	7(23.3)	23(76.7)	1.318	0.725	0(0.0)	2 (100.0)	49.985	0.000
Primary education	14(35.9)	25(64.1)			0(0.0)	14(100)		
Secondary	17(32.7)	35(67.3)			1(1.8)	54(98.2)		
Tertiary	23(31.1)	51(68.9)			63(50.8)	61(49.2)		
Knowledge about the Mode of Transmission of COVID-19								
Age								
60 – 69	18(24)	57(76)	1.443	0.486	40(42.6)	54(57.4)	0.297	0.862
70 – 79	22(25.3)	65(74.7)			34(45.9)	40(54.1)		
≥80	5(15.2)	28(84.8)			11(40.7)	16(59.3)		
Mean ±S.D	72.2(7.4)				71.0(8.0)			
Gender								
Male	16(23.2)	53(76.8)	0.001	0.978	24(44.4)	30(55.6)	0.022	0.882
Female	29(23.0)	97(77.0)			61(43.3)	80(56.7)		
Education								
No formal education	5(16.7)	25(83.3)	1.758	0.681	0(0.0)	2(100.0)	70.512	0.000
Primary education	9(23.1)	30(76.9)			0(0.0)	14(100)		
Secondary	15(28.8)	37(71.2)			3(5.5)	52(94.5)		
Tertiary	16(21.6)	58(78.4)			82(66.1)	42(33.9)		
Knowledge about the Symptoms of COVID-19								
Age								
60 – 69	35(46.7)	40(53.3)	0.016	0.992	74(78.7)	20(21.3)	3.645	0.162
70 – 79	40(46.0)	47(54.0)			64(86.5)	10(13.5)		
≥80	15(45.5)	18(54.5)			19(70.4)	8(29.6)		
Mean ±S.D	72.2(7.4)			71.0(8.0)				
Gender								
Male	39(56.5)	30(55.5)	4.619	0.032	45(83.3)	9(16.7)	0.379	0.538
Female	51(40.5)	75(59.9)			112(79.4)	29(20.6)		
Education								
No formal education	10(33.3)	20(66.7)	4.197	0.241	0(0.0)	2 (100.0)	75.804	0.000
Primary education	22(56.4)	17(43.6)			0(0.0)	14(100)		
Secondary	26(50.0)	26(50.0)			53(96.4)	2(3.6)		
Tertiary	32(43.2)	42(56.8)			104(83.9)	20(16.1)		

between those with and without psychiatric diagnosis, with a more pronounced gap in knowledge among older adults with psychiatric disorders. We also found gender and educational status to be predictive of poor knowledge among those with and without psychiatric diagnosis respectively.

Participants in both groups were ignorant of the cause of the pandemic and only a very few could correctly mention a virus as the causative organism, while others had a wrong perception about the cause. For example, some had religious explanations as a basis for its cause while a few believed it was

due to the installation of 5G network as previously mentioned in a previous study,³³ others believed it was a disease for the rich and the politicians.³⁴

We found knowledge of the mode of transmission of COVID-19 for both groups to be deficient. More than half of the participants of each group, especially

Table 4: Responses given by Patients about Knowledge of COVID-19

Knowledge	Participants with Psychiatric Diagnosis n (%)	Participants with non-Psychiatric Diagnosis n (%)
Cause		
I don't know	115 (59.0)	100 (51.3)
Correct responses based on WHO listing		
Virus	61 (31.3)	64 (32.8)
Other responses		
Sin & other religious themes	18 (9.2)	23 (11.7)
Travelling	1 (0.5)	1 (0.5)
Malaria	0 (0.0)	3 (1.5)
Poor hygiene	0 (0.0)	2 (1.0)
5G	0 (0.0)	2 (1.0)
Mode of Transmission		
Correct responses based on WHO listing		
Droplets of saliva	9 (4.6)	30 (15.4)
Discharge from the nose of an infected person	4 (2.1)	18 (9.2)
Touching of contaminated surface and face region	35 (17.9)	59 (30.3)
Other responses		
Not using of facemask	51 (26.2)	68 (34.9)
Not keeping of social distance	42 (21.7)	46 (23.6)
Going outdoor	32 (16.4)	7 (3.6)
Not using hand sanitizer	18 (9.2)	26 (13.3)
Not washing of hands	30 (9.2)	30 (15.4)
Symptoms		
Correct responses based on WHO listing		
Fever	62 (31.8)	78 (40.0)
Cough	44 (22.6)	115 (59.0)
Sore throat	3 (1.5)	15 (7.7)
Headaches	11 (5.6)	32 (16.4)
Difficulty in breathing/shortness of breath	13 (6.7)	49 (25.1)
Loss of taste or smell	4 (2.1)	3 (1.5)
Diarrhoea	1 (0.5)	0 (0.0)
Tiredness	9 (4.7)	18 (9.3)
Aches & pain	5 (2.6)	8 (4.1)
Conjunctivitis	–	–
Chest pain or pressure	–	–
Loss of speech or movement	–	–
Rash on skin	–	–
Other responses		
Death	1 (0.5)	2 (1.0)

the PD, could not mention at least one correct mode of transmission. A similar trend was found in terms of symptomatology, as participants in the PD group demonstrated a poorer level of knowledge than their nPD counterparts. This finding is similar to that of Muruganadam, *et al* who assessed the awareness of COVID-19 among patients with severe mental illness. They found that majority of the patients were unaware of both the symptoms and modes of transmission of COVID-19. The researchers also suggested that the low knowledge observed among their cohorts may result from the limited access to

information about the virus, reduced access to health care services, and relapse from psychiatric symptoms.³⁵ These challenges are burdensome, as they are faced with both the cognitive deterioration that comes with aging³⁶ and the severe impact of a mental disorder.³⁶ Notably, majority of the cohorts with psychiatric disorders were diagnosed with dementia. Thus, they may have difficulty understanding or remembering the information about the virus or recommended protocols due to memory loss³⁷. This assertion cannot be gainsaid as its consequence is observed in the low knowledge prevalent in this group.

Furthermore, our study explored the predictors of knowledge of COVID-19 prevention among the participants. We found an association between knowledge of COVID-19 and education level among participants without psychiatric diagnosis. We noted a significant difference in the educational status of both groups as participants with psychiatric disorders were less educated. Similarly, low educational status was associated with poor knowledge of COVID-19 in a study conducted by Kasemy *et al* on the knowledge, attitudes, and practices toward COVID-19 among adults in Egypt.³⁸ Education is reportedly an important factor in comprehending health-related information especially understanding specific details of an illness.²³ This suggests that a form of education is needed for an accurate knowledge of COVID-19.

Among those with psychiatric diagnosis, participants' gender was predictive of the knowledge of COVID-19, with the male participants performing better than their female counterparts in terms of their knowledge of the symptoms. Several studies have shown that men are better information seekers than women because they tend to focus more on seeking specific information about health than women, who are more concerned about the simplicity of the information.^{39,40} Similarly, Pinchoff, *et al.*, in their study on Gender differences in COVID-19 knowledge, behaviour and health effects among young adults in India, found that women had poorer knowledge of the virus than men. They found that women had lower rates in literacy which may have limited identification of specific details about the virus. They also suggested that women may have had lower exposure to the media during the pandemic.

In addition, the majority of those with psychiatric diagnoses expressed an indifferent attitude toward the ongoing COVID-19 pandemic. The exact reason for this is unknown but could be a reflection of several factors such as lack of awareness about the impact of the virus on their health, or the general misconceptions of the public about the pandemic. Similar reaction to the pandemic has been reported in a cross-

sectional study conducted by Elugbadebo, *et al* in which majority of caregivers of older people with psychiatric diagnosis were not anxious about the pandemic.⁴¹

Literatures have revealed that knowledge significantly influence attitudes towards health-related issues.^{36,42} Thus, poor knowledge of COVID-19 among the participants with psychiatric disorders, may have deterred them in rightly assessing the current pandemic. On the other hand, most participants without psychiatric disorders were afraid of the virus, possibly reflecting their knowledge about the health implications of contracting the virus. Their knowledge may have produced fear, thereby informing their adherence to the precautions. This attitude was also observed in a non-western preliminary study on the attitudes of older adults towards COVID-19 in Iwate, Japan. Their result revealed that the impact of COVID-19 produced extreme caution, preparedness, thoroughness and strict attention to precautions.³⁴

Despite the indifferent attitude and poor knowledge predominantly observed among those with psychiatric diagnosis, they made claims of observing the precautionary measures put in place by the government. They reportedly engaged in some preventive practices such as mandatory use of facemask, observance of physical distancing and frequent hand-hygiene because the government enforced punitive measures, especially when visiting public places.⁴³ Moreover, during hospital visits, patients and visitors were compelled to adhere to the preventive methods before gaining entrance into the facility. Failure to comply would hinder access into the clinic. Thus, their adherence was necessarily not as a result of self-motivation or knowledge but from the need to gain access to some services and institutions or avoid punitive measures. This is a major concern as it may not be a long-lasting behaviour especially as the protocols are gradually being relaxed and new variants are emerging. This signifies a dire need to better educate this older population with adequate knowledge of the virus which is pivotal in promoting right attitude and

self-motivation to practise the preventive measures against contracting the virus. Should older adults with psychiatric problems recognize the severity of the COVID-19 infection and its negative health outcomes, they are more likely to adopt appropriate health behaviours without being compelled. This is necessary until a scientific breakthrough can guarantee a hundred percent prevention of COVID infection that is affordable and widely available.

This study had a limitation, as we did not assess the current mental state of our study participants. However, we based our recruitment on documented diagnosis made by the Specialist Consultants at the clinics.

CONCLUSION

Older adults had gaps in their knowledge of COVID-19 with participants with psychiatric diagnosis having more gaps in their knowledge of COVID-19 and an indifferent attitude towards the pandemic than those without psychiatric diagnosis. Gender and educational status were predictors of inadequate knowledge among those with and without psychiatric diagnosis respectively. The gap in knowledge about COVID-19 could put them in jeopardy of contracting the virus with subsequent morbidity and mortality associated with the infection, in addition to the risks that old age and mental illness contribute. Health education programmes specifically tailored to educate them about COVID-19 with the aim of improving their comprehension of the infection, promoting right attitudes and self-motivated prevention practices could be beneficial to this population.

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Duality of Interest

The authors have no conflict of interest.

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